

## **REMARKS**

At the time the Office Action was mailed, claims 1 – 6 were pending. In this response claims 1-6 have been amended, and claims 7-22 have been added.

The Applicants would like to thank the Examiner for the courtesies extended to the Applicants' representative during the interview conducted on June 7, 2005.

### Claim Objections

In Paragraph 1 of the Office Action, the Examiner objected to Claim 4. Applicants have amended Claim 4, and respectfully request that the Examiner withdraw the objection.

### Rejection of Claims 1 – 6 Under 35 U.S.C. §112

In Paragraph 3 of the Office Action, the Examiner rejected claims 1 – 6 under 35 U.S.C. §112, first paragraph as failing to comply with the enablement requirement. To the extent the rejection applies to the amended claims, Applicants respectfully traverse the rejection.

It is asserted that the claims contain subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

The Examiner states that there is no additional limitation in the pending claims to explain why the same structure that is specifically noted as not reducing/controlling drag and VIV can be used to successfully reduce/control drag and VIV. It is stated that either there is an enabling step or feature missing, or the claimed invention cannot work.

Applicants are submitting a declaration of Dr. Allen with the explanation as to the differences between the "Allen Paper" and the claimed invention: Independent claims 1-6 recite an element consisting of an ultra-smooth surface with a K/D roughness parameter of less than  $1.0 \times 10^{-4}$ . In contrast, at least 40% of the PVC pipe of the "Allen Paper" had a surface roughness of greater than  $1.0 \times 10^{-4}$ , as Dr. Allen explained in paragraphs 9-13 of his declaration.

Applicants respectfully request that the Examiner withdraw the rejection.

### Rejection of Claims 1 – 6 for Double Patenting

Applicants are submitting herewith a corrected terminal disclaimer as requested by the Examiner.

## Obviousness Rejections of Claims 1 – 6

### Claims 1 and 4

In paragraph 6 of the Office Action, the Examiner rejected Claims 1 and 4 as being unpatentable over the “Allen Paper.” To the extent the rejection applies to the amended claims, Applicants respectfully traverse the rejection.

Claim 1 recites: “ ... a substantially cylindrical marine element consisting of an ultra-smooth surface about the cylindrical element having a K/D ratio of less than  $1.0 \times 10^{-4}$  ... “

Claim 4 recites: “ ... a substantially cylindrical marine element consisting of an ultra-smooth effective surface with a K/D roughness parameter of less than  $1.0 \times 10^{-4}$  ... “

Applicants respectfully submit that the “Allen Paper” does not teach or suggest the desirability of an element consisting of an ultra-smooth surface with a K/D roughness parameter of less than  $1.0 \times 10^{-4}$ , as Dr. Allen explained in paragraphs 9-13 of his declaration.

Applicants respectfully request that the Examiner withdraw the rejection.

### Claims 2-3 and 5-6

In paragraph 7 of the Office Action, the Examiner rejected Claims 2-3 and 5-6 as being unpatentable over the “Allen Paper” in view of Gregory (U.S. Paten 4,470,722)(“Gregory”). To the extent the rejection applies to the amended claims, Applicants respectfully traverse the rejection.

Claim 2 recites: “ ... an ultra-smooth surface coating about the cylindrical element consisting of a K/D ratio of less than  $1.0 \times 10^{-4}$  ... “

Claim 3 recites: “ ... the sleeve consisting of a K/D ratio of less than  $1.0 \times 10^{-4}$  ... “

Claim 5 recites: “ ... a substantially cylindrical marine element consisting of an ultra-smooth coating material with a K/D roughness parameter of less than  $1.0 \times 10^{-4}$  ... “

Claim 6 recites: “ ... a substantially cylindrical marine element consisting of an ultra-smooth substantially cylindrical sleeve surrounding the marine element with a K/D roughness ratio of less than  $1.0 \times 10^{-4}$  ... “

As discussed above, Applicants respectfully submit that the “Allen Paper” does not teach or suggest the desirability of an element consisting of an ultra-smooth surface with a K/D roughness parameter of less than  $1.0 \times 10^{-4}$ , as Dr. Allen explained in paragraphs 9-13 of his declaration.

Applicants respectfully submit that Gregory does not remedy the deficiencies of the “Allen Paper” discussed above, as Gregory does not teach or suggest the desirability of an

element consisting of an ultra-smooth surface with a K/D roughness parameter of less than  $1.0 \times 10^{-4}$ .

Applicants respectfully request that the Examiner withdraw the rejection.

Conclusion

Attorney has responded to each and every ground for objection and rejection and respectfully submits that the claims, as amended, are patentable over the cited art. In the event the Examiner has any questions or comments regarding the above-presented materials, the Examiner is invited to call the undersigned at the telephone number below prior to the issuance of any formal action.

Respectfully submitted,

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